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Are regulations the answer for emerging stock markets? Evidence from the Czech Republic and Poland

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Abstract

Does the emergence of a stock market require a well-developed legal and/or regulatory system? Although historical work by Neal and Davis [Neal, L., & Davis, L. (2005). The evolution of the rules and regulations of the first emerging markets: The London, New York, and Paris stock exchanges, 1792–1914. *Quarterly Review of Economics and Finance*, *45*, 296–311] and Stringham [Stringham, E. (2003). The extralegal development of securities trading in seventeenth century Amsterdam. *Quarterly Review of Economics and Finance*, *43*, 321–344] suggests that securities markets have successfully developed with little government oversight, numerous authors [including Black, B. (2001). The legal and institutional preconditions for strong securities markets. *University of California Law Angeles Law Review*, *48*, 781–855; Coffee, J. (1999). Privatization and corporate governance: The lessons from securities market failure. *Journal of Corporation Law*, *25*, 1–39; Frye, T. (2000). *Brokers and bureaucrats: Building market institutions in Russia*. Ann Arbor: University of Michigan Press; Glaeser, E., Johnson, S., & Shleifer, A. (2001). Coase versus the Coasians. *Quarterly Journal of Economics*, *116*, 853–899; Mlčoch, L. (2000). Restructuring of property rights: An institutional view. In L. Mlčoch et al. (Eds.), *Economic and Social Changes in Czech Society After 1989*. Prague: The Karolinum Press; Pistor, K. (2001). Law as a determinant for equity market development – the experience of transition economies. In Peter Murrell (Ed.), *The Value of Law in Transition Economies* (pp. 249–287). Ann Arbor: Michigan University Press; Stiglitz, J. (1999). *Whither reform. Ten years of the transition*. Keynote Address, Annual Bank Conference on Development Economics, Washington, DC, April 28–30, 1999; Zhang, X. (2006). Financial market governance in developing countries: Getting the political underpinnings right. *Journal of Developing Societies*, *2*, 169–196] argue that the Czech Republic and other Eastern European governments need more regulation for their newly created stock markets. They maintain that the Warsaw Stock Exchange, which is seen as more regulated, has outperformed the Prague Stock Exchange which is seen as largely unregulated. Thus increased regulations are a key to increased performance. This article, however,

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maintains that the evidence from the Czech experience has been misinterpreted. This article provides an in depth case study of the Czech stock market and finds that (a) Czech capital markets have been hindered by government intervention from their beginning, (b) that the evidence on Poland's superior performance is not as strong as suggested, and (c) that Czech regulators seem to be unqualified, lack the proper incentives, and are unlikely to benefit the market. Under these circumstances it appears that Neal and Davis (2005:311) are correct that increased government involvement is unlikely to improve the situation.

JEL classification: G1; K2; P2

Keywords: Emerging stock markets; Tunneling; Capital market

1. Introduction

After the collapse of communism in 1989, economists, policy analysts, and politicians were optimistic about the adoption of capitalist institutions in Eastern Europe. The Czech government, for example, created nearly two thousand joint stock companies and enabled all citizens willing to pay a small fee to participate in a voucher privatization (Filer & Hanousek, 2001). Although hopes for the development of markets were high, within a few years the stock market exhibited problems. A 1996 article in *Fortune* magazine entitled "The Pirates of Prague" is representative of the general sentiment: freewheeling privateers were bilking shareholders after the mass privatization (Wallace, 1996). Tunneling, a phenomenon in which firm managers, investment funds, and majority shareholders expropriated resources of the companies at the expense of the other shareholders, occurred (Johnson, La Porta, Lopez-de-Silanes, & Shleifer, 2002). *The Economist* (September 12, 2002) summed up the consensus: "Many now blame the extreme liberal ideas of their architect of reform, Václav Klaus, who was prime minister in 1992–1998. He believed that freeing markets was more urgent than establishing an institutional framework. . .. But today most people believe that Mr. Klaus's big bang created little economic growth, but a kleptocracy as bad as Russia's."

These problems and others have led many to question the existing arrangements and to ponder the necessary prerequisites for capital market development. While writers such as Benston (1998), Manne (1969), and Stigler (1964) argued that forward looking economic agents would contract for arrangements to maximize the value of their shares, Glaeser, Johnson, and Shleifer (2001, p. 854) counter that this group of theories "crucially relies, among other assumptions, on the possibility of effective judicial enforcement of complicated contracts." In Eastern Europe these conditions are not met (Santomero, 1998), so Glaeser et al. argue that regulators must step in to enforce the rules. Others who have written about the Czech stock market reach similar conclusions. Coffee (1999), Mlčoch (2000), Pistor (2001) all argue that the Czech government has been too hands off and that this has led to insider dealings, a decreasing number of listed companies, and an overall lackluster stock market.

In contrast the Polish stock market is portrayed as a model that others should follow. Poland was more explicit in adopting a highly regulated market, and over 1990s the total number of listed companies increased. Authors attribute the increasing number of companies in Poland to the high amount of securities regulation. This now common view is that the emergence of a stock market requires the state to play a significant role promoting and creating order in stock markets (Black, 2001; Frye, 2000; Stiglitz, 1999; Zhang, 2006).

But is the situation so cut and dry? Are regulations the explanatory factor in the performance in these countries? Perhaps yes, but perhaps no. As Stigler (1964, p. 120) argued, just because a problem exists does not mean that regulators have the capability to solve it. This article seeks to assess whether problems in Eastern Europe would likely be alleviated by increased regulations. Studying the emerging markets in Eastern Europe is important to any economy looking for the recipe of how to develop capital markets. An interesting dilemma presents itself because the sample size of countries is so small. Most previous studies rely on anecdotal evidence, which admittedly is often the best evidence available. Glaeser et al. (2001) go one step further by supplementing anecdotal evidence with some comparative statistics making theirs the most in depth article. They maintain that a more regulated Polish stock market vastly outperformed the less regulated Czech stock market. Their work is very influential (as of July, 2007, the ISI Web of Science Citation Index lists 36 published articles citing to them) and is now being accepted as conventional wisdom, so this article focuses on many of their arguments.

In this article we provide an in depth case study and we too rely heavily on anecdotal evidence, which admittedly is always incomplete and has the potential for bias. The main contribution of this article, however, is to compile more objective evidence about market regulations and performance, and augment it with more anecdotal evidence much of which we observed first hand. We conducted research in seven visits to Prague in July 6–30, 2000, July 10–August 5, 2001, July 20–August 4, 2002, July 14–August 2, 2003, April 19–27, 2005, July 19–31, 2006, and July 4–14, 2007. During our second and third visits we conducted roughly three dozen formal qualitative interviews in English with the help of a Czech assistant, in addition to dozens of more informal conversations without an assistant in subsequent visits. We interviewed brokers, fund managers, bankers, lawyers, academics, and government officials.[1] We also read literature from Czech companies, government agencies, and the financial press,[2] as well as hundreds of pages of Czech regulations (which we found ironic considering how Glaeser et al. (2001, p. 853) maintain the market had "hands off regulation").[3] The additional anecdotal evidence is meant to augment the more objective statistics. We admit that anecdotal evidence always has the potential to be incomplete, but we believe that more evidence, albeit imperfect, is better than none. Just because observing the exact effort and ability of regulators is impossible, it does not mean one should assume as previous authors did that regulators are effective. Looking at *de jure* rules and a select few statistics as in Glaeser et al. (2001) can create a misleading picture of the regulatory environment in Eastern Europe. By bringing in evidence from various sources we hope to create a more accurate assessment of the Czech situation.

Our research indicates that neither Czech judges nor Czech regulators are likely to be of assistance to investors. We conclude that the studies of Coffee, Glaeser et al., Mlčoch, Pistor, and Zhang seem to overestimate the ability of regulators to encourage the development of equity markets. If the problems that plague judicial enforcement are present with the regulatory authority, then shifting the burden of monitoring and enforcement from judges to regulators

[1] For public officials and academics we list names and dates of the interview, but for private individuals we retain their anonymity and list only the dates.

[2] For a nation in transition, the press in the Czech Republic is quite good. There are numerous private news outlets, and Reporters Without Borders, the Paris based organization advocating freedom of press, ranks the Czech Republic as 5th on the 2006 Worldwide Press Freedom Index only behind Finland, Iceland, Ireland, and the Netherlands.

[3] Given that interviewing all people in the Czech Republic is impossible we admit the possibility of a selection bias and also an interpretation bias on our part. To deal with these problems, whenever possible we assemble reports from published sources to substantiate the accounts of interviewees.

is not an efficient solution. Proposing regulations that are likely to be poorly enforced may be counterproductive.

In contrast to the idea that lack of regulation was the problem, our study of the Czech stock market finds that government was a *source* of the problems. Our research also finds that the Polish stock market is not faring much better. Neal and Davis (2005, p. 311) discuss the problem of how government attempts to plan and regulate securities markets all too often results in politics getting in the way of markets, stifling rather than encouraging growth. In history there have been many examples of successful markets that were self-regulating (Davis & Neal, 1998, p. 43) and few examples of successful tightly regulated markets. The lackluster Czech stock market should not be considered a new example of an unregulated failure, but instead just another example of one held back by too many regulations. In the end we concur with Neal and Davis (2005, p. 311) that "governmental 'benign neglect' is probably the best policy for countries at an early stage of economic development."

2. Assessing outcomes in the Czech Republic and Poland

How has the Czech stock market fared? In the early 1990s the Czech government created nearly two thousand joint stock companies and enabled all citizens willing to pay a small fee to participate in a voucher privatization (Filer & Hanousek, 2001). Although the scheme was fairly successful in getting industry out of government hands, in many cases firm managers, investment funds, and majority shareholders expropriated resources of the companies in phenomenon known as tunneling (Johnson et al., 2000). Judges in former communist countries lack experience and expertise and are unreliable (Santomero, 1998; Zemplinerova, 2000, p. 141), so Glaeser et al. (2001, p. 854) argue regulators must step in to fill the void.[4]

Before getting to some of the real problems with the Czech stock market, we should state at the outset that the transition in the Czech Republic has not been a complete failure. Twenty years ago most almost all industry in the Czech Republic was government owned and today most industry is private. They still are reforming, but the *Economic Freedom of the World 2006 Annual Report* by Gwartney and Lawson (2006, p. 13) rates the Czech Republic at 7.0 out of 10, tying it with Italy, so in many areas there has been great progress.

Despite the achievements, one area that many hoped would be more successful is their stock market. Glaeser et al. suggest that the market could have been more successful had government regulators done more. Their hypothesis runs counter to the hypothesis of many economists who believe that markets generally work best when left to regulate themselves. Glaeser et al. present evidence suggesting that a heavily regulated Poland had superior market performance. They provide charts indicating a decreasing number of companies, decreasing market capitalization, and a lack of IPOs in the Czech Republic, but the opposite for Poland, as evidence for their position. If Glaeser et al. are correct then all of the literature documenting examples of successful self-regulation might just be documenting historical artifacts with lessons inapplicable to emerging markets today.

[4] Beyond the Czech government, one potential source of regulation would have been self-regulatory organizations such as stock exchanges abroad, but Glaeser et al. ignore that option. At the opposite end of the spectrum would be supranational governmental organizations such as the European Union, International Monetary Fund, or World Bank. Although in theory any of these organizations might have been able to act as the source of oversight, for a number of reasons discussed by Leopold (2006) none of them were that involved in regulating financial markets in Eastern Europe in transition.

Is the Czech Republic a clear example of a market failing due to lack of regulation? If so, the policy implications could be far reaching: countries with weak judiciaries need to rely more on regulation. Let us consider the evidence. Does it demonstrate that the market in Poland was that good and the market in the Czech Republic was that bad? Although the Czech experience was not spectacular, the data in Glaeser et al's (2001, pp. 888–892) *Quantitative Assessment* can be quite misleading without contextualization.

2.1. Market performance

Table 1 from Glaeser et al. (2001, p. 888) shows the number of companies and aggregate market capitalization rising for Poland and falling for the Czech Republic, seemingly a sign of the inferiority of the Czech stock market. The table clearly lists the number of companies in the Czech Republic falling by 80%. The casual observer might conclude that most of these companies went bankrupt. But if one looks beyond the figures drawn from the Prague Stock Exchange, one can see that these companies were not going bankrupt or even ceasing to become publicly traded companies as the chart suggests. The number of companies traded on the Prague Stock Exchange declined because the Prague Stock Exchange changed its policy, increasing listing requirements and delisting 1301 of the smaller and less liquid firms between March and September of 1997 (Czech News Agency, 2000, p. 13; Hanousek & Munich, 1999, p. 54). The Prague Stock Exchange chose to focus on higher liquidity firms, just as the New York Stock Exchange does in the U.S., letting smaller companies be traded elsewhere Over-The-Counter (OTC). This was simply a business decision (perhaps a good one) of one exchange that says little about the overall number of publicly traded firms in the country.

During this time, the vast majority of equities delisted from the Prague Stock Exchange were still available for trading on an OTC trading venue in the Czech Republic, the RM-System. In 1998 the RM-System listed nearly two thousand titles (RM-System Annual Report, 2001, p. 5). But because Glaeser et al. present data from the Prague Stock Exchange exclusively, the apparent decrease in publicly traded companies is overestimated. The market was not withering away. Just because the Prague Stock Exchange became more stringent does not mean the market capitalization of the firms now tradable on the RM-System became worthless. Although the Prague Stock Exchange contained the larger and more liquid companies, their number and their market capitalization is only part of the total firms in the Czech Republic. Glaeser et al.'s table is equivalent to mistaking the firms listed on the New York Stock Exchange as the only publicly traded firms in the United States, when in fact many publicly traded firms are listed elsewhere. After the Prague Stock Exchange changed its listing requirements, the volume of trading in the RM-System continued to increase. In 1998, 48% of the official trades in the Czech Republic took place on the RM-System (RM-System Annual Report, 1998, p. 21), so this alternative market was important. We discuss their ultimate fate at the hands of regulators in Section 3.

Also potentially misleading are Glaeser et al.'s figures of the International Finance Corporation Investable Indices. Fig. 1 from Glaeser et al. (2001, p. 889) shows the Czech Republic with less than half the number of firms as Poland. But although Poland has more companies listed in Fig. 1, it also has nearly *four* times the population. If one graphed these figures on a per capita basis, the Czech Republic would be ahead. Except for the fact that Poland is larger, Fig. 1 does not show that that Poland has greater international visibility on a per capita basis. A global market portfolio consisting of all firms in the International Finance Corporation Investable Indices would actually have more Czech firms relative to the size of their population compared to Poland.

Table 1
Glaeser et al.'s (2001, p. 888) table on stock market size in Poland and the Czech Republic

	Market capitalization		Market capitalization/GDP		Number of issues listed						
	Poland	Czech Republic	Poland	Czech Republic	Poland			Czech Republic			
	US $m, end of year				End of year			End of year			
					Main market	Parallel market	Total	Main	Second market	Free	Total
1991	144		0.19%		9	0	9				
1992	222		0.26%		16	0	16				
1993	2706		3.15%		22	0	22	3	0	966	969
1994	3057	5938	3.30%	14.99%	44	0	44	34	0	990	1024
1995	4564	15664	3.84%	30.8%	65	0	65	62	6	1630	1698
1996	8390	18077	6.23%	32.0%	83	0	83	42	51	1535	1628
1997	12135	12786	8.95%	24.6%	143	0	143	0	58	217	320
1998	20461	12045	14.10%	24.2%	198	20	218	10	94	179	283

Sources: Polish numbers are from the International Finance Corporation 1998 and 1999 and include National Investment Funds. Czech numbers are from the Prague Stock Exchange webpsfe and the International Finance Corporation 1997 and 1999.

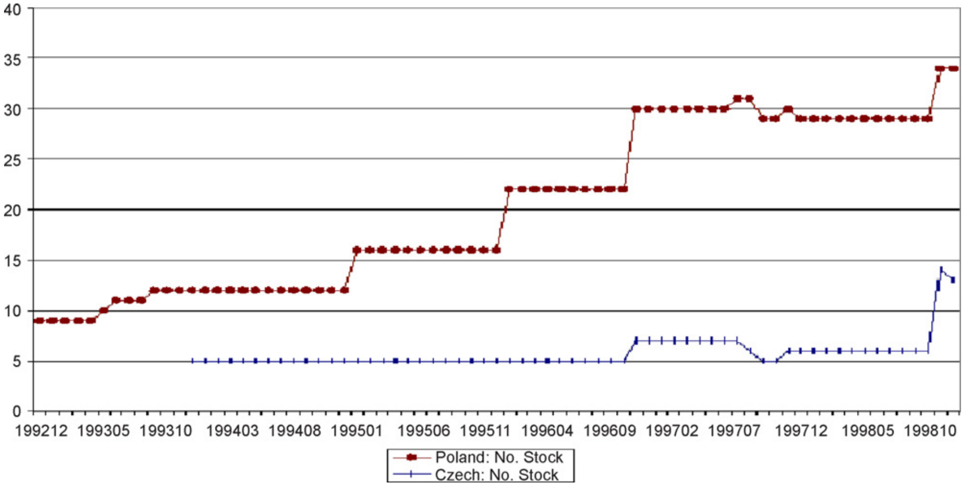

Fig. 1. Glaeser et al.'s (2001, p. 889) table on number of stocks in international finance corporation investable index in Poland and the Czech Republic.

But more striking to the casual reader is Fig. 2. After looking at Fig. 2 from Glaeser et al. (2001, p. 890) which country looks like it would have been a better investment? The graph of the market capitalization of the firms in the International Finance Corporation Investable Index seems to indicate that the Polish market vastly outperformed the Czech market. But the International Finance Corporation *Investable* Index is composed of a select few stocks that have a "legal and practical availability to foreign institutional investors," and must "meet the more stringent . . . size and liquidity screens." This index is explicitly not intended to be "the broadest possible indicator of market movements" (as is the International Finance Corporation *Global* Index) and so the graph needs careful interpretation.

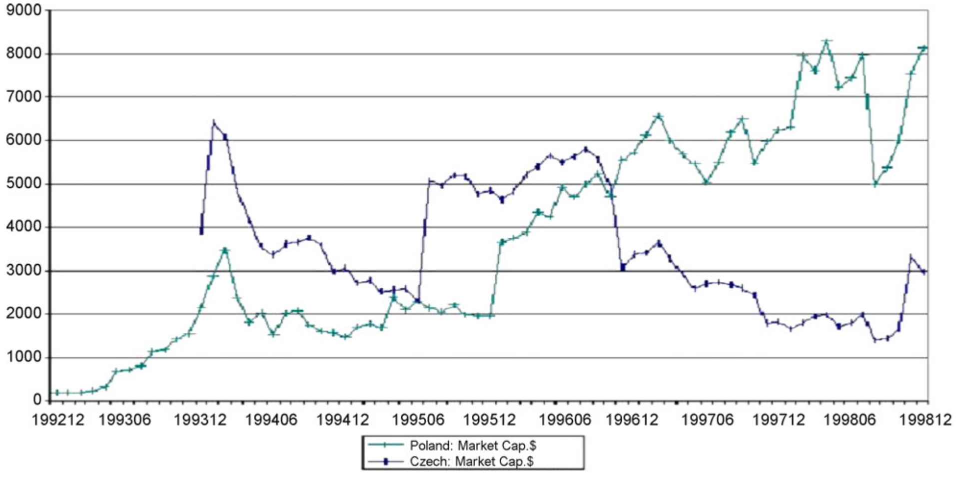

Fig. 2. Glaeser et al.'s (2001, p. 890) figure on market capitalization of stocks in international finance corporation investable index in Poland and the Czech Republic.

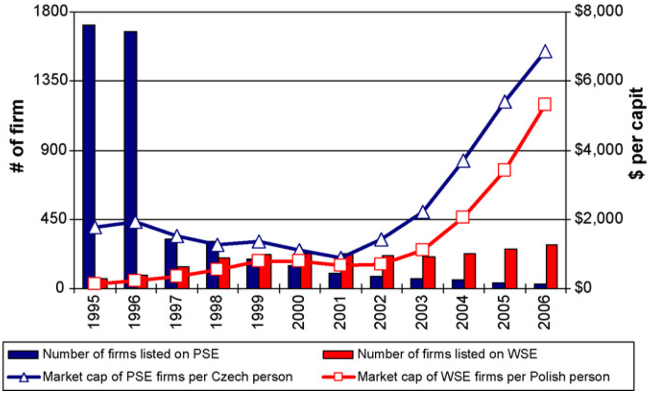

Fig. 3. Number of firms and market capitalization per capita for firms listed on the Prague Stock Exchange and Warsaw Stock Exchange. *Sources*: Data are from Prague Stock Exchange and Warsaw Stock Exchange converted into USD using Oanda Corp. Historical currency averages.

Though the number of Polish companies and their market capitalization steadily increases, the pace and method of privatization taking place explains it. The Polish government privatized in large chunks slowly throughout the nineties. With each new large firm removed from state hands and listed on the stock market, there would be more stocks on the International Finance Corporation Investable Index with a higher total market capitalization. Because they are looking at market capitalization, not an index, it is not surprising that it increased. The Czech Republic, on the other hand, had a mass privatization program in the early 1990s and minimal privatization thereafter so the market capitalization of publicly tradable firms did not increase due to additional privatizations.

In addition, the Czech Republic privatized in many small pieces, so few firms were large enough to be included in the International Finance Corporation Investable Index. The median market capitalization of these publicly traded privatized firms was less than $1 million (Weiss & Nikitin, 2004, p. 4). Had the Czech Republic chosen to break public industry into only 100 pieces rather than 2000 they would have had larger firms more likely to qualify for the International Finance Corporation Investable Index. Privatizing in chunks large enough so firms are readily available to foreign investors might be a good strategy, but it speaks of the way firms were privatized, not of how the market was performing overall. Still on a per capita basis, the Czechs had more firms and a higher market capitalization of firms in the International Finance Corporation Investable Index. But more importantly the apparent growth in Poland compared to the Czech Republic is entirely due to the way the two countries privatized and cannot be explained because of superior secondary market regulation.[5]

To assess the overall size of the Prague Stock Exchange and the Warsaw Stock Exchange let us look at market capitalization of all firms in those exchanges rather than market capitalization of a handful of stocks. The vertical bars in Fig. 3 show the number of firms listed on the Prague Stock Exchange and the Warsaw Stock Exchange, and the lines show the market capitalization of listed

[5] Since the number of privatized firms is increasing in Poland and roughly constant in the Czech Republic, Glaeser et al.'s graph is not comparing apples to apples. A graph of average market capitalization might prove more useful than a graph of total market capitalization, but as will be discussed, ultimately a chain index is the most useful measure of market performance.

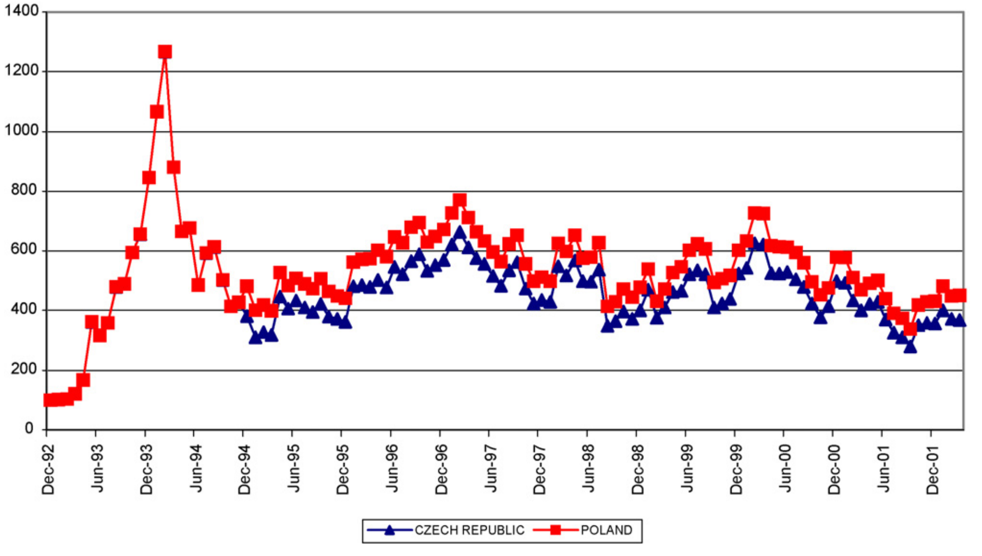

Fig. 4. Morgan Stanley-capital international indices for Poland and Czech Republic.

firms divided by population so we can compare market capitalization on a per capita basis. Keep in mind that Fig. 3 only looks at firms listed on the Prague and Warsaw Stock Exchanges and it does not list firms publicly traded elsewhere. Nevertheless, Fig. 3 indicates that even when the Prague Stock Exchange was tightening listing requirements to drastically decreasing the number of listing firms (thereby decreasing market capitalization of firms listed on the Prague Stock Exchange), the relative market capitalization has always been higher for the Prague Stock Exchange compared to the Warsaw Stock Exchange. Today the Prague Stock Exchange only has 32 firms compared to Warsaw's 384, but the market capitalization per capita is still higher in the Czech Republic compared to Poland. More specifically, the Prague Stock Exchange has roughly $7000 of equity for every Czech resident whereas the Warsaw Stock Exchange has roughly $5000 of equity for every Polish resident.

But to really assess a stock market, one actually needs to look at performance, not just market capitalization. Total market capitalization of publicly traded firms changes as firms are taken public or go private, and it says little of how investors fare. To see overall market performance, one needs to look at an index, and when one does, one sees that the evidence in favor of Poland is entirely absent. Consider the Emerging Market Indices created by Morgan Stanley Capital International (Fig. 4) and not considered by Glaeser et al. The Morgan Stanley Capital International Indices which "serve as a gauge for measuring the performance of a market." (MSCI Barra Index Research, 2007, p. 7). For Poland, rather than a steady increase, one can see the Morgan Stanley Capital International Index is down 66% from its high in 1993 and has languished over the past eight years. For the Czech Republic, the Morgan Stanley Capital International data starts in 1994, but for the entire subsequent range not much difference exists between the two countries. In addition, the International Finance Corporation Global Indices, which are broader indicators than the International Finance Corporation Investable Indices, also show return if one invested in a diversified equity portfolio in either country. Here too, hardly any difference between Poland and

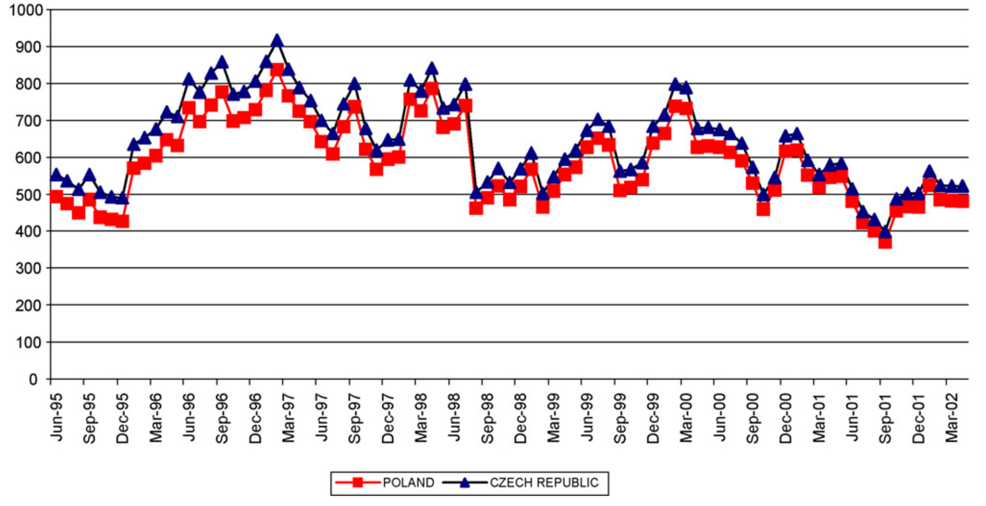

Fig. 5. International finance corporation global indices for Poland and Czech Republic.

the Czech Republic exists (Fig. 5).[6] The evidence in Glaeser et al. which appears to show the superiority of Polish over Czech stock markets is misleading at best.

2.2. *Initial public offerings*

One of the benefits of stock markets is that they give firms access to an additional way of raising capital. Glaeser et al are correct that the Czech market has had hardly any initial public offerings (IPOs)[7] indicating that Czech firms must go elsewhere for funds.[8] Glaeser et al. (2001, p. 892) compare the lack of Czech IPOs to the positive number in Poland, and conclude, “The regulated Polish stock market grew faster, maintained greater liquidity, and has been a better source of capital for firms than the less regulated Czech market.”

But does their evidence prove their hypotheses that Poland had the right amount of regulations and Czech Republic had too few? Again, the statistics must be interpreted with care. First let us consider the large number of IPOs in Poland. When most Americans hear the term IPO, they think of a private firm selling shares in an initial public offering. Well functioning primary markets allow

[6] Did the typical Czech fare any differently? One Czech told us that although some may have lost their initial investment of 1000 CZK (∼$35) he stated. “Actually I do not know anyone for whom the privatization was a losing business. My grandma, having known absolutely nothing about the companies recently sold her share in an investment fund just from the second run of the privatization for 20,000 CZK.” (Personal Correspondence, February 27, 2002).

[7] Glaeser et al. (2001, p. 891) are only mostly correct when they write, “[T]he data show that no private Czech company had done an IPO on the Prague exchange,” because looking further to the RM-System there was one firm, Software602, which did issue an IPO in 1997. In the past 3 years, four additional firms have issued IPOs on the Prague Stock Exchange (Bouc, 2006b) which is a positive step, but it still pales in comparison to the hundreds of IPOs in London Stock Exchange’s Alternative Investments Market (AIM).

[8] The bond, banking, and private equity markets provide a more attractive source of external finance for Czech firms (Bouc, 2006a, p. 11). One Prague correspondent states that few firms issue IPO’s because “entrepreneurs have access to cheap bank finance and are besieged by offers from private equity investors, which have raised huge funds to spend in the region” (Anderson, 2006, p. 16). For a more complete discussion of the banking sector in the Czech Republic see the World Bank’s (1999) Czech Republic: Capital Market Review.

firms to easily raise money by issuing shares. Although there were many "IPOs" in Poland, the statistics about the high number of "IPOs" actually does not indicate firms are able to use the stock market to raise capital. The way the language was used during Polish transition, IPOs in Poland could refer to a corporation raising capital by selling shares, but it also could refer to government selling off an industry on the open market. This second type of IPO, more specifically referred to as a Privatization IPO, indicates that government is selling assets. A Privatization IPO is very different from a private sector IPO and the fact that Privatization IPOs take place says little of whether firms can take advantage of equity finance. Glaeser et al. write "the Polish data show rapidly growing equity financing by both new and already listed firms." What they fail to point out is that in 1990s, private sector IPO's were less than 15% of the "IPO" market (Aussenegg, 2000:33). Having Privatization IPOs may be desirable, but whether economists should classify them as equity finance is unclear.

There is more than one possible explanation for the low number of IPOs in the Czech Republic. Again the first hypothesis is that Czech firms do not use equity finance because there are too few regulations, but a competing hypothesis is that there are actually too many. Our research strongly suggests the latter. The Czech Stock market is often portrayed as a completely free and unregulated market, but the reality is numerous regulations existed that were not company friendly. Evidence of this comes from many sources and some of our findings are summarized in Table 2 which compares some of the regulations and market characteristics of the Czech stock market, the Polish Stock market, and for comparison the London Stock Exchange's Alternative Investments Market (AIM). Summarizing all regulations is difficult, but Table 2 should indicate that both the Czech and the Polish stock market have numerous regulations compared with the self-regulated AIM. For example, firms must have been in existence for at least three years and they must get approval from many agencies before going public in the Czech Republic, whereas no such requirements exist for AIM. Our research suggests that listing shares in AIM is relatively easy, and it is relatively difficult in the Czech Republic. Readers interested in confirming this are invited to read the hundreds of pages of Czech government regulations.

When firms decide whether and where to go public, they consider all of the costs of raising capital and pick the venue that offers the most for what they offer (Chemmanur & Fulghieri, 2001). If a government imposes large costs to go public on a certain venue, few firms will choose to issue shares there. Considering what we found about the Czech regulations, we are unsurprised that very few firms choose to issue shares on the Czech stock market. By raising the costs of listing, the Czech government discourages companies from going public. In comparison AIM has much fewer regulations than either the Czech and Polish stock markets, and we are unsurprised at AIM's relative success (Pricewaterhouse Coopers, 2007, p. 3). Some firms have gone public on the Polish stock markets in recent years, but referring to the situation in Poland as "rapidly growing equity financing" (Glaeser et al., 2001, p. 891) seems overstated.

Further evidence that the low number of Czech IPOs is caused by too many regulations can be found by listening to the accounts of those close to the situation. Let us consider a few of their stories. Analyst Markéta Šichtařová of NextFinance stated, "Being listed on a stock exchange is a prestigious thing, and many companies would like to be on it . . .. But when they realize what needs to be done in order to enter the [Prague Stock Exchange], they change their minds." (quoted in Bouc, 2006a, p. 9). The firm Ceska Sporitelna, which had been considering an IPO, knew first hand: "We perceive... the current legislation as one of the key causes of the non-existence of IPO in the Czech Republic." (quoted in Czech News Agency, 2001, p. 6). In addition to the government

Table 2
Comparison of London's Alternative Investment Market, Warsaw Stock Exchange, and Prague Stock Exchange

	London Stock Exchange Alternative Investment Market (AIM)	Warsaw Stock Exchange (WSE)	Prague Stock Exchange (PSE)
Founded	1995[a]	1991[b]	1993[c]
Self-regulated or government regulated	Exchange-regulated	Government regulated	Government regulated
Regulatory Authority	London Stock Exchange Financial Services Authority	Financial supervisory commission[d]	Czech Securities Commission (SEC) subsumed by the Czech National Bank[e]
Applicable Regulations	AIM rules	Act on public offering, conditions governing the introduction of financial instruments to organized trading, and on public companies, 29 July 2005. Commission regulation (EC) No. 809/2004 of 29 April 2004. WSE rules[f]	Commercial code; act on securities; act on undertakings on the capital market; act on bonds PSE rules[e]
Total market capitalization in 2006	90.6 £ billion[g], (US$ 185.24 billion)[h]	PLN 635.9 billion[i] (US$ 231.66 billion)[h]	1,591.997 CZK billion[j] (US$ 78.08 billion)[h]
Number of companies in 2006	1634[g]	284[f]	32[j]
Number of international companies	306[g]	12[k]	6[l]
Value of shares exchanged in 2006	US$ 117.4 billion[m]	US$ 120.1 billion[n]	US$ 41.4 billion[o]
Average market capitalization in 2006	US$ 113 million	US$ 816 million	US$ 2.44 billion
Number of new listings in 2006	334[g]	38[f]	2[p]
Parties determining whether company can be listed	Private party: the nominated advisor[q] (based on reputation[r])	National depository for securities[g]; Polish Financial Supervision Authority[g]	Securities Commission[s]; Securities Centre[t]; Commercial Register[u]; Exchange Listing Committee[v]; exchange chamber[w]
Fast-track admission to market	Yes[x]	No	No
Minimum length of listing process (actual length may be much longer)	14 weeks[y]	8 months and 3 weeks[z]	6 months[A]
Estimated cost range of IPO (actual percentage varies based on size of IPO)	5.5–11%[B] (including underwriting, financial advisor costs, legal expenses, accounting and auditing fees, admission fees, printing and public relations costs)	On average 5–6%, with a minimum cost of $53,238[C]	4.64%–5.57%%[D]

Required financial history before issuing shares	No restrictions against new companies[E]	The issuer has published financial statements with the opinion of an auditor for at least 3 consecutive financial years prior to the submission of the application for admission, or the company has published, in a manner laid down in separate regulations, information which enables investors to evaluate the financial and economic position of the company as well as the risk related to the acquisition of shares subject to the application where the admission to trading on the official listing market is justified by a reasonable interest of the company or investors[F]; no bankruptcy or liquidation proceedings are underway against the issuer[G]	The issuer has published its final accounts, as stipulated in a special statute, for at least three consecutive years before the year in which the application for the acceptance of the shares for trading is being made[H]
Minimum share capital	No minimum market capitalization or proportion of shares to be in public hands[I]	All outstanding shares of a given type have been covered by an application to the competent governing body of the company operating the official listing market; the product of the number and the projected market price of the shares covered by the application, or, if such price cannot be determined, the issuer's shareholders' equity, amount to no less than the zloty equivalent of EUR 1,000,000"[J]	In the case of a bond, the total value of the issue established as the issue price is at least 200,000 EUR and in the case of a share, the price or estimated price multiplied by the number of shares issued is at least 1,000,000 EUR. If the price cannot be estimated, this minimum applies to the issuer's own equity; this does not apply in the case of shares if their issuer has already issued shares of the same kind and these shares have been accepted in the public market, in which the application for the acceptance of shares for trading is being made[K]
Free float requirement	No requirement	As at the date of the application, dispersion of the shares is sufficient to ensure liquidity of trading in the shares[L]; dispersion of shares shall be deemed to ensure liquidity of trading if: (1) at least 25% of the company shares covered by the application; or (2) at least 500,000 company shares, whose total value is equal to no less than the zloty equivalent of EUR 17,000,000, calculated at the most recent issue price or selling price of the shares, or, in particularly justified circumstances, at their projected market price, are held by shareholders each of whom controls no more than 5% of the total vote at the company's general shareholders meeting[M]	In the case of a share, at least 25% of the nominal value of all shares to be accepted in the public market is disseminated among the public or at least a smaller portion of these shares, which with a view to their great volume and dissemination among the public ensures problem-free trading in the public market.[N]

Table 2 (*Continued*)

	London Stock Exchange Alternative Investment Market (AIM)	Warsaw Stock Exchange (WSE)	Prague Stock Exchange (PSE)
Prospectus must be approved by SEC before issuing	No prospectus requirement but AIM has recommended guidelines	An appropriate information document has been prepared and approved by the relevant supervision authority, unless such information document does not need be prepared or approved[O]	A published Prospectus is required[P]; prospectus has to be approved by the Commission and printed within 6 months[Q]
Prospectus must be in language other than English	No	No	Yes[R]
Publish annual report	Yes (audited within six months)[S]	Yes[T]	Yes (audited within 4 months)[U]
Hard copy and electronic copy of annual report	No	No	Yes[V]
Publish quarterly reports	No[W]	Yes[X]	Yes[Y]

Sources (All websites accessed August, 2007). Sources (All electronic documents accessed August, 2007).

[a] http://www.londonstockexchange.com/NR/rdonlyres/2FFDF9AD-2A8A-4EE6-B094-0A505E922F9A/0/LSEAIMGuidenographicsFINAL.pdf p. 3.
[b] http://www.wse.com.pl/gpw.asp?cel=e_ogieldzie&k=1&i=/historia/historia&sky=1.
[c] http://www.pse.cz/dokument.aspx?k=History.
[d] http://www.gpw.pl/gpw.asp?cel=e_ogieldzie&k=4&i=/grupakapitalowa/grupa&sky=1.
[e] http://www.pse.cz/dokument.aspx?k=Issuers-Guide.
[f] http://www.gpw.pl/zrodla/gpw/rocznik2007/listing_13.pdf, p. 115.
[g] http://www.londonstockexchange.com/NR/rdonlyres/B7A0DF24-36E9-4EC3-AF89-9FE36AC8BCC8/0/Aimfs0612.pdf.
[h] Calculated 08/03/2007 with 1 US$ = 0.4891£, 2.7450PLN, 20.390 CZK.
[i] http://www.gpw.pl/zrodla/gpw/rocznik2007/listing_13.pdf p. 20.
[j] http://ftp.pse.cz/Info.bas/Eng/Key_data_93-06.pdf.
[k] http://www.gpw.pl/zrodla/e_informacje/periodical_statistic/Gpwsen.html.
[l] http://www.pse.cz/Statistika/Burzovni-Indexy/Default.aspx.
[m] http://www.londonstockexchange.com/NR/rdonlyres/B7A29D18-A599-4C92-9375-EE3CF5A60D1C/0/AIMMarketStatistics0706.pdf p.2, calculated 8/2007 with 1 USD=0.493881 GBP.
[n] http://www.gpw.pl/zrodla/e_informacje/periodical_statistic/Gpwsen.html calculated 8/2007 with 1 USD=2.78614 PLN.
[o] http://www.pse.cz/Statistika/Objemy-Obchodu/ calculated 8/2007 with 1 USD = 20.4813 CZK.
[p] PSE Fact Book 2006 p. 3, 4 http://ftp.pse.cz/Statist.dta/Year/fb2006.pdf.
[q] http://www.londonstockexchange.com/NR/rdonlyres/2FFDF9AD-2A8A-4EE6-B094-0A505E922F9A/0/LSEAIMGuidenographicsFINAL.pdf, pp. 18–19.
[r] http://www.londonstockexchange.com/NR/rdonlyres/2FFDF9AD-2A8A-4EE6-B094-0A505E922F9A/0/LSEAIMGuidenographicsFINAL.pdf, p. 22.

[s] http://www.cnb.cz/www.cnb.cz/en/legislation/leg_capital_market/download/commercial_code.pdf, p. 98.
[t] http://www.cnb.cz/www.cnb.cz/en/legislation/leg_capital_market/download/commercial_code.pdf, p. 133.
[u] http://www.cnb.cz/www.cnb.cz/en/legislation/leg_capital_market/download/commercial_code.pdf, p. 4.
[v] http://ftp.pse.cz/Info.bas/Eng/Rules/freemark.pdf, p. 1.
[w] http://www.pse.cz/dokument.aspx?k=Free-Market.
[x] http://www.londonstockexchange.com/NR/rdonlyres/2FFDF9AD-2A8A-4EE6-B094-0A505E922F9A/0/LSEAIMGuidenographicsFINAL.pdf, p. 14.
[y] http://www.londonstockexchange.com/NR/rdonlyres/2FFDF9AD-2A8A-4EE6-B094-0A505E922F9A/0/LSEAIMGuidenographicsFINAL.pdf, p. 29.
[z] http://www.gpw.pl/gpw.asp?cel=e_spolki&k=1&i=/droga/listing&sky=1, p. 7.
[A] http://www.pse.cz/dokument.aspx?k=IPO-en.
[B] http://www.londonstockexchange.com/NR/rdonlyres/B032122B-B1DA-4E4A-B1C8-42D2FAE8EB01/0/Costofcapital_full.pdf, p. 31.
[C] http://www.google.com/url?sa=t&ct=res&cd=10&url=http%3A%2F%2F2007.blse.ba%2F%3Fid%3D61&ei=xup7RqPrGY6soASZmJylAw&usg=AFQjCNHGizIl4IcOEM6IufRzzccTvt-_wg&sig2=B9Tqmq7RtjLDoFk5Guab3w, p.4. Calculated 8/2007 with 1 US$ = 0.730670 EUR.
[D] We estimate this based on annual reports from two of the four firms that went public on the Prague Stock Exchange, Zentiva and ECM Real Estate. Zentiva raised 1941 million CZK at a cost of 90 million CZK or 4.64%. http://www.pse.cz/Cenne-Papiry/Detail.aspx?isin=NL0000405173#KL, p.6,p.40. And ECM Real Estate raied 80,723,910 EURO at a cost of 4,498,000 EURO or 5.57%.http://www.ecm.cz/get_file.php?filename=tiradmin/user_files/corporate/%20-%202006%20IFRS%20Consolidated%20EN_42.pdf, p.43.
[E] http://www.londonstockexchange.com/en-gb/products/companyservices/ourmarkets/aim_new/About+AIM/admissioncritera.htm.
[F] http://www.gpw.pl/gpw.asp?cel=e_spolki&k=12&i=/droga/how_listed&sky=1.
[G] http://www.gpw.pl/zrodla/e_ogieldzie/regulacje/rules_wse.pdf., p.3.
[H] http://www.rmsystem.cz/eng/osp/osp_zakcp.asp section 72 1 d.
[I] http://www.londonstockexchange.com/en-gb/products/companyservices/ourmarkets/aim_new/About+AIM/admissioncritera.htm.
[J] http://www.kpwig.gov.pl/pdf/206_1712.pdf paragraph 2.1, subparagraph 3 and 4.
[K] http://www.rmsystem.cz/eng/osp/osp_zakcp.asp section 72 1 d.
[L] http://www.kpwig.gov.pl/pdf/206_1712.pdf paragraph 2.1, subparagraph 5.
[M] http://www.kpwig.gov.pl/pdf/206_1712.pdf, paragraph 2, subparagraph 1 and 2.
[N] http://www.rmsystem.cz/eng/osp/osp_zakcp.asp section 72 1 d.
[O] http://www.gpw.pl/gpw.asp?cel=e_spolki&k=21&i=/droga/listing&sky=1&nagnaz=Listing%20in%20Warsaw, and The Warsaw Stock Exchange Rules, Chapter 2, paragraph 3, subparagraph 1.
[P] http://www.rmsystem.cz/eng/osp/osp_zakcp.asp section 72 1 d.
[Q] http://ftp.pse.cz/Info.bas/Eng/Rules/freemark.pdf, page 4, article 6, subsection 1.
[R] http://ftp.pse.cz/Info.bas/Eng/Rules/freemark.pdf, p.4, article 6, subsection 4.
[S] http://www.londonstockexchange.com/NR/rdonlyres/2FFDF9AD-2A8A-4EE6-B094-0A505E922F9A/0/LSEAIMGuidenographicsFINAL.pdf. p.16.
[T] http://www.gpw.pl/zrodla/gpw/pdf/rocznik2005/2.pdf, p.9.
[U] http://www.rmsystem.cz/eng/osp/osp_zakcp.asp section 72 1 d.
[V] http://ftp.pse.cz/Info.bas/Eng/Rules/freemark.pdf, page 4, article 7, subsection 3a.
[W] http://www.londonstockexchange.com/NR/rdonlyres/91B19E7D-550C-440A-BCCA-52A32F1913DB/0/AIMRULESFORCOMPANIES_2007.pdf, p.8.
[X] http://www.gpw.pl/zrodla/gpw/pdf/rocznik2005/2.pdf, p.9.
[Y] Conditions to be traded on the main and secondary markets of PSE; http://ftp.pse.cz/Info.bas/Eng/Rules/list.pdf, p.7.

requiring issuers to deal with a *Central Securities Registry* that historically charged high fees,[9] government procedures made it difficult for firms to offer shares to investors on a timely basis. Petra Wendelova of Ernst & Young declared, "You cannot do an IPO if you are putting into your prospectus that the shares will be available once the court registers them, which can take three months." (quoted in Lesenarova, 2001, p. 12). According to the Czech Republic and Slovakia Business Report (2001a, p. 1) when all is said and done, "An IPO takes 10–22 months to plan, thanks to an array of legislative hurdles." The Czech News Agency (2001) writes, "CS has joined the opinion attributing the current zero activity in the segment of IPO to poor laws and to the slow entry of stock issues in the Company Register."

One financial reporter explains how the Czechs realized they needed to address the situation:

> Simplifying the tortuous procedures for companies to list on the exchange forms a core part of the recovery strategy. The move follows the latest sign last month that the [Prague Stock Exchange's] attempts to promote its new market as the place to list IPO stocks has been a complete failure. (Lesenarova, 2001, p. 8)

Even though the Czechs are attempting to court new companies, the companies see it is not worth it. In the words of another writer, "But Czech Internet startups remain wary. They say that there are plenty of problems with the Prague Stock Exchange not yet addressed, including time-consuming regulations connected to IPOs" (Korova, 2000, p. 1). Pavel Sodomka, director of a Czech Internet company, talks about his own company's prospects:

> An IPO is only worth it if the company's revenues jump over $30 million. . .It is possible that Atlas will do an IPO and that the time for it is not to be counted in years. . .The Czech stock exchange needs to show that it cares about companies. (quoted in Korova, 2000, p. 1)

The situation has improved slightly since 2000, but not by much. Frantisek Bouc (2006a, p. 8) describes "A sea of application paperwork [for an IPO] is a disincentive." Small companies cannot endure the high costs associated with issuing shares on the Czech stock market, and those large enough already have the option of listing their shares on other exchanges.[10]

Considering the costs, most Czech firms have not gone to the stock market for raising capital. The low number of IPOs in the Czech Republic shows that the market is not a good source of equity finance. But we disagree that the lack of IPOs can be attributed to a lack of regulations. It seems likely that these failures can be attributed to an over burdensome government rather than an unregulated market. The assessments of "legislative hurdles," "tortuous procedures," "sea of application paperwork" and "time-consuming regulations" seem more accurately interpreted as too many regulations, not too little.

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9 For example, in 2001 a $5 million IPO with 100,000 investors would be required to pay the Czech Central Securities Registry roughly $150,000, which is three percent of gross proceeds (Czech Republic and Slovakia Business Report, 2001b). In August 2001 the government did reduce its fee for new issues by 80%, which might indicate that the Czech government realized they were part of the problem (Czech Republic and Slovakia Business Report, 2001b, p. 1).

10 One young investment banker told us that he shifted all his business to electronic trading on the London Stock Exchange because he believed that the Czech market was too corrupt and too regulated to make money (Personal Interview, Prague, July 27, 2002).

3. Assessing the stock market in the Czech Republic

The evidence indicates the Czech stock market performance is not drastically different from the Polish stock market. Neither of these markets are a complete failure, but neither are as successful as many hoped. Although Glaeser et al. attempt to portray the Polish market as vastly superior to the Czech stock market both have problems for many reasons that have nothing to do with lack of securities regulation. Transparency International's 2006 *Corruption Perception Index*, which measures "perceptions of the degree of corruption as seen by business people and country analysts," rates Poland at a 3.7 out of 10 (0 is more corrupt and 10 is less corrupt), directly below Colombia, Turkey, and Jamaica (Transparency International, 2007, pp. 326–330).[11] The Czech Republic scores a 4.8 out of 10, directly behind Italy, so the portrayal that Poland is a highly regulated and highly successful market compared to the Czech Republic is simply inaccurate.

Both Poland and the Czech Republic have had problems for many of the same reasons. Our assessment is similar to that of Neal and Davis (2005, p. 308) who argue that many problems in emerging markets could have been easily avoided had people learned the lessons of history. In the past, regulators have implemented many questionable regulations that do not benefit investors (Stigler, 1964, p. 87), and our research indicates that the Czech Republic is no exception. Let us again consider the hypothesis that the problem in the Czech Republic was too little regulation and let us contrast it with other potential hypotheses.

3.1. Reasons why regulators did not assist shareholders

Many people simply assume that government has the ability to assist investors, but the reality is often quite different. It is fairly well accepted that judges in former communist countries have little experience enforcing complicated financial contracts and so are not completely knowledgeable (Zemplinerova, 2000, p. 141). But the important question is whether regulators are likely to be any better. The hypothesis of the advocates of regulation is that regulators will have a certain level of competence and motivation to help investors.

We tried to get an idea of those responsible for actually regulating the market. Were they experts appointed because of their knowledge about markets? In one 2001 interview with a roughly 30-year old stockbroker in Prague, he told us that regulators are typically, "People over forty [that is, people raised and educated under communism], who had no experience with capital markets," and the others are "people who had been unsuccessful in the private sector." (Personal Interview, Prague, July 16, 2001). Because regulators are not experts, it would not be surprising if they did a poor job.[12] We found some government officials who believed the opposite, but most of what we heard ran counter to the hypothesis that regulators are likely to help investors so let us consider some of their accounts.

One Czech financial analyst expressed doubts about the ability of regulators to enforce the rules, declaring, "You have to pay people top dollar to get the highest standard. If you pay peanuts, you get monkeys." (quoted in Kondos, 1995, p. 3). Not only was the selection of people who worked for the regulatory agency poor, little better can be said about the people running it. Rather than selecting trained economists, or at least people who understood financial markets, Czech President

[11] We thank an anonymous referee for this suggestion.

[12] Duscan Triska, one architect of Czech privatization, told us a major problem with transition is that one cannot rely on courts or government because by definition these institutions are weak or corrupt – they are in need of transition. (Personal Interview, Prague, July 29, 2002).

Vaclav Havel made political appointments, as the February 2002 appointments to the SEC make clear:

> That fact has sparked speculation that the appointments to the five-member presidium are a classical carve-up between the opposition pact parties and that they could be used to exert political influence on the commission. But according to leading figures on the capital market, the biggest problem lies not in the two candidates' political ties, but in their lack of proven experience. Both are lawyers without hands-on experience of the markets. (Carey, 2002, pp. 2–3)

One brokerage firm member commented, "The primary issue is that they should have a proven record on the market, and I personally haven't ever heard of them. I am very concerned about their level of expertise." (quoted in Carey, 2002, p. 12). Even a former SEC commissioner declared, "Selection criteria such as honesty, intelligence, integrity and avoidance of conflict of interest could not have been entirely satisfied. Such inherent conflicts of interest are a tumor in Czech society and economic life." (Pospisilova, 2000, p. 1).[13]

Although the Czech regulators had a poor understanding of the markets they oversaw, that did not prevent them from enacting numerous policies that most economists would consider harmful. Even in 1995, nearly three years before the creation of the SEC, one Czech writer wrote, "The state maintains an overbearing presence in some financial-market activities, such as in licensing stockbrokers." (Volkman, 1995, p. 7). Another wrote that the Finance Ministry "complicates the life of normal investors with senseless regulations." (Czech News Agency, 1995, p. 22). When the SEC was created in 1998, it hired many of the same people who had been doing a poor job enforcing the rules at the Finance Ministry (Calbreath, 1996a). One should not expect the outcome to be improved by simply renaming their office.

After the creation of the SEC in 1998, the amount of regulation increased. In its tenth month of existence it decided that the more than four hundred stockbrokers and one hundred investment funds were too many. SEC presidium member Jana Pospisilova declared, "The amount is really unbelievable." (Czech News Agency, 1998, p. 3). To fix this perceived market failure, the SEC began a relicensing process for everyone connected with the industry.

> License holders received the 31 page collection of requirements Oct. 16, and have until Monday, Nov. 2, to air their grievances... In January those inspections, or "administrative proceedings,"will begin. They'll take about 60 days each, after which time the [SEC's] 20-to-30-member relicensing group will decide whether to order minor changes in a firm, restrict the activities allowed under its license, or simply yank the permit altogether. (Friedrich, 1998, p. A5)

Even the Prague Stock Exchange and its alternative venue, the RM System, had to clear the hurdles to continue their operations.

Many of the firms traded on the RM-System were not highly liquid, but just like equities listed on the Pink Sheets in the United States, having an illiquid market in a stock is better than none.

[13] Vojtech Cepl of the Czech Constitutional Court emphasized problems stemming from the communist legacy: "The former communist system was so messed up and so pervasive in Czech society that the court system was corrupt, the banking system was corrupt, and government was corrupt, and thus, it should not be a surprise that during the transition period these sectors continued to be intertwined and ineffective" (Personal Interview, Prague, July 30, 2002). Corruption was on the minds of many with whom we spoke. One brokerage firm lawyer told us, "Corruption is embedded in the system and cannot be eliminated by government policy" (Personal Interview, Prague July 22, 2002).

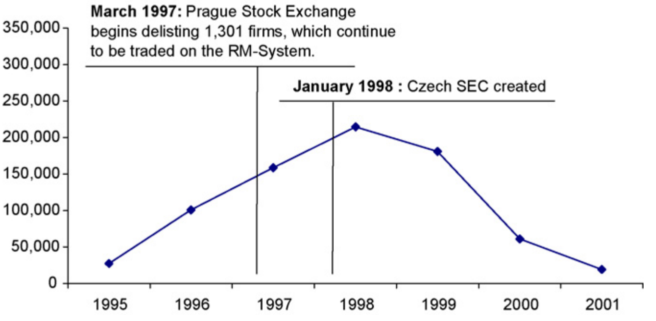

Fig. 6. Total value of trades per year on RM System (CZK MN). *Sources*: RM-System annual reports.

But government regulators did not see things that way. Although the demand for trading small cap stocks existed after the Prague Stock Exchange delisted those securities, the SEC decided to prevent people from trading on the RM-System as well. *The Prague Post* reported:

> Thousands of stockholders in small Czech companies will see an unwelcome transformation over 2001: their shares will turn into virtually useless sheets of paper. Thanks to an amendment to the country's Securities Law, hundreds of smaller companies are set to be tossed off organized public stock markets by the end of 2001. (Bouc, 2001, p. 1)

In that year alone, the government prevented trading in about 700 securities from the RM-System, and the end result in a year-to-year comparison was for trading volume to decrease by no less than 66% (Fig. 6). The effects on the RM-System could have been predicted—and were.[14] Regulations increased after the creation of the SEC, and annual trading volume on the RM-System decreased for its first time. One former investment fund manager told us, "They worked a lot to put the RM-System out of business because the RM-System did not fit with the regulatory vision of the SEC. It was too unregulated." (Personal Interview, Prague April 24, 2005). By 2001, annual trading volume on the RM-System was less than ten percent of its high from only three years earlier when the SEC was created. Table 1 from Glaeser et al.'s does accurately convey that fewer companies were available for trading over time, but their table does not show the ultimate cause. Decreasing trading and eliminating the ability to trade certain companies, are indeed less than optimal outcomes in the Czech experience. Because these events appear to be caused by increases in regulation, they should not be considered a problem of having too few regulations.

The government also went after many of the smaller investment firms. Petr Ladzov of the SEC stated, "market participants will be quite surprised because it's the first time we're requiring so much information from them"(quoted in Friedrich, 1998, p. A5). The end result was to remove the licenses from half of investment companies and two-thirds of brokerage companies. (Czech News Agency, 2000) "[SEC] Chairman Jan Mueller said many of the smaller companies may not be able to bear the costs of restructuring and modernizing and so will be forced out of business." (Friedrich, 1998, p. A12). Such actions might screen out inefficient or fraudulent firms, but they also might simply be used to restrict competition. A manager at a smaller firm suggested this to us, "Large companies such as Patria Finance were the biggest supporters of the regulations because

[14] In 1995 a director of the RM-System warned of the impending regulations, "If we had called for tougher regulations two years ago, we would never have gotten a license to develop our businesses. I hope we will remember this" (quoted in Lawson, 1995, p. 5).

they knew it would put many of their small competitors out of business." (Personal Interview, Prague April 24, 2005).[15] And one stockbroker from one of the larger firms even told us, "For us it's good to restrict competition." (Personal Interview, Prague, July 16, 2001).

Other regulations are difficult to interpret as anything but meddling. New rules set minimum requirements on managers' education levels and experience. Rather than letting investors decide with whom to entrust their resources, the government restricted such options.[16] New rules were imposed about how companies operated: in accordance with EU guidelines, firms needed to create Chinese walls by having a back office, a front office, and a compliance officer. Other regulations mandated that participants operate in the interests of their clients and that closed-end funds became open-end funds. (Reuters, 1998) But the new regulations came with significant costs: "One foreign investor said some regulations designed to curb conflicts of interest seem unrealistically strict, and the legal adviser to one brokerage said rules to prevent front-running may prove too cumbersome to use." (Friedrich, 1998, p. A5). Other regulations restricted where Czechs could invest and how funds could be offered. *The Prague Tribune* reports "Registration itself involves a number of obligations, due to which the Czech market is not profitable for many companies now." (Vykoukal, 2001, p. 21). Although the laws' expressed intent was to assist investors, they seem to have had the opposite effect. Stepan Aser of Commerz Asset Management commented, "All funds must be registered, irrespective of who buys them. This will lead towards less choice for both small and large investors"(quoted in Vykoukal, 2001, p. 22). Regulators played an active role, but their role did not seem to be helpful. The list of questionable regulations is long, leading us to question the assessment that the Czech Republic adopted "an ultra laissez-faire policy perspective" as Mlčoch (2000, p. 87) and others believe.

3.2. Reasons why managers did not always work for shareholders

The next set of problems could stem from lack of regulation or they could stem from the way firms were privatized. Although the Polish stock market was not as superior as portrayed in the figures in Glaeser et al. (2001), the performance of many Czech firms has been less than stellar. As of 2001, roughly 40% of the original 1700 firms had a market value of less than $1 million or less than six shareholders, or both (Bouc, 2001). One explanation is that the stock market accurately reflects the true value of Czech companies and helps weed bad ones out, but Glaeser et al. disagree:

> In the 1990s the Czech market saw not some Darwinian selection of the fittest firms, but rather tunneling—the diversion (both legal and illegal) of assets from both good and bad firms. Coasian contracts bonding firms to treat investors well did not materialize (2001: 893).

[15] We interviewed a representative of the Union of Investment Companies to find out about the prospects of self-regulation (Personal Interview, Prague, July 29, 2002). Although the Union has strict membership and has excluded some for violations, these actions appear to minimal. The assessment of one former head was that their primary purpose is seeking government privileges rather than self-regulation (Personal Interview, Prague April 24, 2005).

[16] To Petr Ladzov of the SEC, it was not acceptable that boards of investment funds, "had people with only basic or elementary school education who were making decisions about the assets of their shareholders" (quoted in Friedrich, 1998, p. A12). According to another SEC member, with the new regulations many unsanctioned "managers don't have enough official experience or education to qualify" (quoted in Friedrich, 1998, p. A12). In addition various businessmen at the American Chamber of Commerce stressed that foreign investors face many obstacles to conducting business in the Czech Republic (Personal interviews, Prague, July 22, 2002).

They believe that tunneling can be attributed to too few regulations and that it has since crippled the process of financial intermediation. But to what extent were the former state owned firms valuable business enterprises that warranted being publicly traded?

A big difference exists between companies that have to raise capital under the scrutiny of public markets and government established enterprises automatically given resources by the state. The two types of enterprises face very different incentives so different performance is expected. Although many Czechs assumed that these firms were viable business enterprises, this assumption needs to be questioned (Boettke, 2001). Looking more closely at the entities privatized, one might be surprised the results were not worse. The entities in question were not long established private businesses but rather former pieces of the communist state. It is unclear that the firms even warranted staying in business not to mention being publicly traded.

Consider the sheer quantity of firms automatically listed on the stock market in such a small nation through privatization. Petr Kucera declared, "Around 2000 companies were virtually thrown into the stock exchange." (quoted in Bouc, 2001, p. 1). Did the voucher scheme privatize in pieces too small to warrant being publicly traded? As one indication, the total market capitalization of firms on the Prague Stock Exchange in 1995 was $18 billion for 1628 firms, roughly one hundred and eleven million dollars per firm.[17] In 2006 the total market capitalization of firms on the Prague Stock Exchange is $78 billion for only 32 firms, almost $2.5 billion per firm. It is not at all clear that their earlier choice to have almost 2000 much smaller firms be publicly traded was a good one. Maybe 32 firms is something closer to the optimal number than 1628. But the biggest difference between the Czech firms of the early 1990s and those in the West is that even the smallest publicly traded Western corporations must prove themselves to the market before being listed. In contrast, "In the early 1990s, Czech companies were automatically given stock listings and every citizen became a shareholder." (Bouc, 2001, p. 1). Most of the Czech enterprises were not exactly thriving corporations. In 1995 *The Prague Post* reported, "Many are small firms with only a few employees." (Lawson, 1995, p. 5). Another commentator added, "of the 1700 companies listed on the capital market, over 1000 do not meet the criteria for being there" (Kondos, 1995, p. 17).

Firms' non-capitalist histories aggravated the situation. Prior to privatization, managerial appointments were made based on political connections to the Communist Party rather than business acumen.[18] Because managers were not selected by owners of a firm, they had no experience and little motivation to act in their 'shareholders' interest. The following excerpt from *The Prague Post* illustrates this well:

> Secretive companies often have managers with attitudes forged during the '70s and '80s, said Pavel Kohout, a portfolio manager at ING Investment Management. Under communism, secrecy – not transparency – was the watchword. The conglomerate Chemapol is the quintessential example of a company run by old dogs who can't or simply won't learn

[17] More than 150 publicly traded US firms exist that each has a market capitalization greater than all publicly traded Czech firms. This is not to mention the number of non-publicly traded US firms, such as Cargill and Koch Industries, whose exact market values are unknown, but whose revenues are in the tens of billions of dollars. If these companies do not see a need to be publicly traded, it is not clear that all of the smaller Czech firms need to be publicly traded. A decreasing number of publicly traded firms could even be a sign the market was working.

[18] Palidwoda (1995, pp. 53–54) writes: "Many managers were appointed for political reasons, and feeling threatened by the changes, will try to pose obstacles to Western investment or cut special deals... Remember that managers' interests are very different from those of the privatization authorities. Managers are not concerned with maximizing shareholder value".

> new capitalist tricks. They've been "used to being opaque since communism," Kohout said. Coupon privatization did little to change such attitudes. Many managers find themselves in publicly traded companies against their will. Many Czech companies "didn't come to the stock market," said Datka. "They found themselves on the stock market as a result of privatization." (Patton, 1998, p. A5)

Under communism managers did not view their job as a responsibility but as a privilege. Even after privatization those engaged in politics continue to use their position for their own gain. As Tomas Jezek stated, "Some guys in government now like to administer state properties, sit on corporate boards and run privatized companies as if they're still state-owned enterprises. They like their role. They want to keep it permanently." (quoted in Calbreath, 1996b, p. 5).

Even though enterprises were officially government owned under communism, managers had a fair amount of discretion with regard to the control over resource use. After the fall of communism, these same managers were still in power, and they reacted in a number of ways that were not necessarily in the best interest of the public. Managers in the immediate post-communist period often made firms difficult to privatize (Mlčoch, 2000, p. 67), and others whose firms were on the privatization slate had the perverse incentive of getting as much as they could before they lost control. Mlčoch (2000, p. 38) points out that there was a large degree of "stripping of state assets and the *tunneling* of state enterprises during the so-called pre-privatization agony." These problems existed before the stock market even emerged and were a consequence of the attenuated property rights structure in operation in the former socialist economy. Given this timing, these problems cannot be attributed to a lack of securities regulation.

4. Conclusion

We have a mixed assessment of the Czech privatization. On one hand, one of the goals was to get most industry out of governments hands quickly. From this perspective, Czech privatization helped achieve that goal. Almost two decades after the fall of the Soviet Union, certain other Eastern European countries such as Belarus are still "deciding" how to privatize and the economy is not much different from Soviet times. Getting firms into private hands, albeit imperfectly, might have been a good choice. In addition, on a per capita basis for everyone living in the country, the value of the firms in the Prague Stock Exchange has always been and still remains to be higher than the value of the firms on the Warsaw Stock Exchange. So from that perspective the Czech results are not that bad.

On the other hand, if the goal was to instantly create a thriving stock market like that of the United States or England then the program was unsuccessful. Part of the problem was they had an unrealistic belief that Western stock markets could simply be copied. One Czech economist told us, "The main problem was that when Thatcher visited the Budapest Stock Exchange in the beginning of the transition process, she praised it as the future of capitalism for the former socialist economies; after that all the transition economies scrambled to imitate Hungary and create their own stock exchanges." (Personal Interview, Prague, July 29, 2002). They thought that all they needed to do was create shares in state owned firms, create a trading venue, create a bunch of rules, and then markets in these government created enterprises would flourish.

The Czech experience teaches a few important lessons about privatization and corporate governance. Most successful stock markets have evolved over time with many of their eventual benefits emerging later. Historically the primary purpose of stock markets has been to raise capital with the byproduct being the emergence of corporate governance mechanisms through the market for

managerial labor and the market for corporate control. But in the transition economies the reformers confused the byproduct with the primary purpose—state enterprises were privatized, and the stock market was to assume the role of corporate governance without first being the source of investment capital. In a well functioning stock market, firms have to have good corporate governance if they want to raise capital. But when firms did not have to raise their capital (if they started out owned by the state), the corporate governance mechanisms need not be present. In these latter circumstances one should not expect the stock market to have the same corporate governance mechanisms.[19]

One the major pitfalls of Coffee, Glaeser et al., Mlčoch, and Pistor is that they look at problems that are manifest in the secondary market and charge the secondary market itself. The theory that firms will create “contracts bonding firms to treat investors well” (Glaeser et al., 2001, p. 893) assumes that firms are vying for the investors’ dollar in the primary market to begin with. But if a manager has no reason to create such a contract, the secondary market is not to blame. A company that has to raise capital will have an incentive to offer an ownership structure that minority investors can trust and to list its shares on an appropriate venue, but in the Czech Republic the starting point was completely different. Investors did not hire their managers nor choose the terms under which the shares would be traded. Resources were given to managers; they did not have to convince people to invest in their firm. Principals were not choosing their agents. In these circumstances, it would be unsurprising if managers do not always act in the interest of the investors. This is a problem in the Czech Republic and in countries with piecemeal privatization like Poland too (Claessens, Klingebiel, & Lubrano, 2002, p. 3). The way state owned enterprises are structured and how the managers our compensated affects performance (Aivazian, Ge, & Qiu, 2005).

We are not overly positive or overly negative on the way the Czechs privatized, but let us consider some different choices the Czechs could have made. The Czechs could have sold their firms just as fast as they did without actually creating their coupon voucher scheme. They could have simply auctioned firms off to the highest bidder, whether that bidder was management or foreign investors, and given the proceeds to the citizens. The new owners would have an interest in trying to maximize the value of the firms, and through a competitive bidding process the citizens would get more. But “the Czech government discouraged equity ownership by managers” (Makhija & Spiro, 2000, p. 3) and they typically eschewed foreign bidding, because “there was a fear that foreigners may acquire the best firms, or so-called ‘national silver,’ at throwaway prices. Consequently, less than 10% of the firms had any insider or foreign ownership” (Makhija & Spiro, 2000, p. 3). Giving managers a stake in firms, having large institutional investors to act as a check, and having a free market for corporate control are some mechanisms used to make managers work for shareholders. But some of the main checks on management were removed because of government regulation.

The Czech government did sell some state enterprises to foreign companies such as when they sold Skoda Auto to Volkswagen. When they did that, they essentially imported all of the well functioning institutions, such as the Frankfurt Stock Exchange, that help Volkswagen work. Research by Boubakri, Cosset, and Guedhami (2005) finds that privatized firms perform better when privatized onto developed stock markets with better mechanisms of corporate governance. Western stock markets have been evolving for centuries, so the Czechs did not need to be completely self-sufficient and replicate everything themselves. Perhaps a Czech stock exchange would have evolved, but it is not clear that a country with a population of 10 million even needs its own stock

[19] We thank a referee for helping us make this point.

exchange.[20] Perhaps most importantly, the focus should be allowing new businesses to come into the market rather than focusing all energy on regulating and micromanaging how state owned enterprises will persist after they are privatized.

Since privatization, a number of problems have manifested in the stock market. It seems, however, that these problems should not be attributed to lack of regulation. In contrast to previous studies, we find that most of the problems in the Czech stock market are due to government policies rather than a lack of securities regulation. Our research suggests that authors such as Glaeser et al. commit errors on at least two levels: (1) the Czech environment is not one where judges are inept, but regulators are competent, and (2) the Czech environment was never one of *laissez-faire*. At the first level, a more accurate description would be: inept judiciary and inept regulators. On the second level, despite the politicians' claims of sweeping market reforms (Paliwoda, 1995, p. 76), the economy had heavy government influence throughout. A highly regulated Polish market has not vastly outperformed an "unregulated" Czech market. While most authors believe that strengthening regulators will be an improvement, we find that regulations have been acting as a hindrance to the development of the stock market. Just as the Czech judiciary has problems, so do Czech regulators, thus increasing regulation does not appear to be an effective remedy.

Knowing the Czech history is important, because authors such as Glaeser et al attempt to use it as a counterexample to the studies documenting markets with successful self-regulation. Finding a market that failed because of too little regulation could have far reaching policy conclusions because it would imply that the historical examples of successful self-regulation cannot be generalized. But our research suggests that the Czech experience is no counterexample at all. The Czech stock market is just another example of an overly regulated and poorly planned stock market, which is underdeveloped as the result. It is not much different from other stock markets in the region such as Poland. Like most all other cases where governments believe they need to plan and tightly regulate markets, the goals of Polish and Czech regulators far surpassed their achievements. An implication of this study is that economies desiring more stock market development should look elsewhere rather than government regulation.

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[20] This point was made to us by Jan Freit, Chief Executive Officer of the Czech National Bank (Personal Interview, Prague, July 30, 2002). An economist in the Office of the President also stated, "Having a Czech Stock Exchange makes about as much sense as having an Alabama Stock Exchange" (Personal Interview, Prague, July 25, 2002).

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